The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A blast-resistant panel comprising:

a first layer of overlapping plates;

a compressible second layer located adjacent the first layer; and

a third layer located adjacent the second layer;

wherein upon detonation of an explosive located adjacent the first layer, the overlapping plates slide relative to one another allowing the first layer to compress the second layer without permitting substantial release of gases through the first layer, the second layer absorbing energy from the blast, and the third layer restricting substantial displacement of the second layer.

2. The blast-resistant panel of claim 1 wherein the second layer is of honeycomb construction.

3. The blast-resistant panel of either one of claim 1 wherein the first layer is constructed of a plurality of sub-layers of overlapping plates.

4. The blast-resistant panel of claim 1 wherein the overlapping plates of the first layer are lightly welded together to form the first layer.

5. The blast-resistant panel of claim 1 wherein the blast-resistant panel is domed.

6. The blast-resistant panel of claim 5 wherein the overlapping plates of the first layer are substantially triangular.

7. The blast-resistant panel of claim 6 wherein the overlapping plates of the first layer are mounted with one apex of each overlapping plate aligned with an apex of every other overlapping plate.

8. The blast-resistant panel of claim 7 wherein an end plate overlaps the aligned apexes of the overlapping plates.

9. A blast-resistant panel comprising:

a first layer of axially-slidable plates;

a compressible second layer located adjacent the first layer;

guiding ribs between the plates of the first layer to guide axial sliding of the plates, said guiding ribs being shaped to substantially provide and maintain a seal with the plates during axial sliding of the plates; and

a third layer located adjacent the second layer;

wherein upon detonation of an explosive located adjacent the first layer, the plates slide toward the third layer, guided by the guiding ribs, allowing the first layer to compress the second layer without permitting substantial release of gases through the first layer, the second layer absorbing energy from the blast, and the third layer restricting substantial displacement of the second layer.

10. The blast-resistant panel of claim 9 wherein the second layer is of honeycomb construction.

11. The blast-resistant panel of claim 9 wherein the sides of the guiding ribs against which each plate abuts are parallel.

12. The blast-resistant panel of claim 9 wherein the blast-resistant panel is domed.

13. The blast-resistant panel of claim 12 wherein each of the plates of the first layer is substantially triangular.

14. A blast-resistant container comprising:

a substantially spheroid shell having a first layer of overlapping plates, a compressible second layer located adjacent the first layer and a third layer located adjacent the second layer; and

a sealable door in said shell;

wherein upon detonation of an explosive located adjacent the first layer, the overlapping plates of the first layer slide relative to one another allowing the first layer to compress the second layer without permitting substantial release of gases through the first layer, the second layer absorbing energy from the blast, and the third layer restricting substantial displacement of the second layer.

15. The blast-resistant container of claim 14 wherein the second layer is of honeycomb construction.

16. The blast-resistant container of claim 14 wherein the first layer is constructed of a plurality of sub-layers of overlapping plates.

17. The blast-resistant container of claim 14 wherein the overlapping plates of the first layer are lightly welded together to form the first layer.

18. The blast-resistant container of claim 14 wherein each of the overlapping plates of the first layer is substantially lune-shaped.

19. The blast-resistant container of claim 18 wherein the overlapping plates of the first layer are mounted such that their apexes are aligned.

20. The blast-resistant container of claim 19 wherein end plates overlap the aligned apexes of the overlapping plates.

21. The blast-resistant container of claim 18 wherein the first layer is constructed of a plurality of sub-layers of overlapping plates, the overlapping plates of each sub-layer being mounted such that their apexes are aligned.

22. The blast-resistant container of claim 21 wherein end plates overlap the aligned apexes of the overlapping plates of each sub-layer.

23. The blast-resistant container of claim 22 wherein none of the apexes of the overlapping plates of a given sub-layer is aligned with the apexes of the overlapping plates of another sub-layer.

24. The blast-resistant container of claim 14 wherein the door comprises:

a first layer;

a compressible second layer located adjacent the first layer;

a third layer located adjacent the second layer; and

a guide collar along the periphery of the door to guide axial movement of the first layer and to shield the second layer from blast forces,

wherein upon detonation of the explosive located adjacent the first layer of the door, this first layer compresses the second layer of the door, the first layer of the

door and the guide collar cooperate to resist substantial release of gases through this first layer, the second layer of the door absorbs energy from the blast, and the third layer of the door restricts substantial displacement of the second layer of the door.

25. The blast-resistant container of claim 14 wherein an opening is defined in the shell by a door frame extending into the shell, a compressible seal is located within a groove along the periphery of the door on a surface facing the exterior of the container such that cooperation between the compressible seal and the door frame will seal the opening, and the door is sealed by positioning the door such that the compressible seal is adjacent the door frame, and then pressing the door against the door frame such that the compressible seal seals the opening.

26. The blast-resistant container of claim 25 wherein the periphery of the door also has a blast-shield collar extending toward the exterior of the container, said blast-shield collar being located to the outside of the groove containing the compressible seal, such that when the door is pressed against the door frame, the blast-shield collar overlaps the outside of the door frame, providing protection to the compressible seal from blast forces.

27. The blast-resistant container of claim 14 further comprising a fluid sampling system comprising:

inlet nozzles piercing the shell of the container;

an outlet piercing the shell of the container;

fluid circulation lines connected to each of the inlet nozzles and the outlet;

a fluid circulation pump for circulating fluid in said fluid circulation lines; and

a sensor for detecting at least one of chemical and biological agents in the fluid circulation lines;

whereby upon operation of the fluid sampling system fluid is circulated through the fluid circulation lines, into the blast-resistant container through the inlet nozzles, out through the outlet, and through the sensor for determining whether an object located within the blast-resistant container contains at least one of chemical and biological agents.

28. The blast-resistant container of claim 27 wherein the fluid sampling system also comprises decontamination fluid inlets and effluent outlets in the fluid circulation lines for circulating a decontamination fluid through the interior of the blast-resistant container.

29. A blast-resistant container comprising:

a substantially spheroid shell having a first layer of axially-slidable plates, a compressible second layer located adjacent the first layer, guiding ribs between the plates of the first layer to guide axial movement of the plates, said guiding ribs being shaped to substantially provide and maintain a seal with the plates during axial sliding of the plates, and a third outer layer located adjacent the second layer; and

a door in the shell;

wherein upon detonation of an explosive located adjacent the first layer, the plates of the first layer slide toward the third layer, guided by the guiding ribs, allowing the first layer to compress the second layer without permitting substantial release of gases through the first layer, the

second layer absorbing energy from the blast, and the third layer restricting substantial displacement of the second layer.

30. The blast-resistant container of claim 29 wherein the second layer is of honeycomb construction.

31. The blast-resistant container of claim 29 wherein the sides of the guiding ribs against which each plate of the first layer abuts are parallel.

32. The blast-resistant container of claims 29 wherein each of the plates of the first layer is substantially lune-shaped.

33. The blast-resistant container of claims 29 wherein the door comprises:

a first layer;

a compressible second layer located adjacent the first layer;

a third layer located adjacent the second layer; and

a guide collar along the periphery of the door to guide axial movement of the first layer and to shield the second layer from blast forces,

wherein upon detonation of the explosive located adjacent the first layer of the door, this first layer compresses the second layer of the door, the first layer of the door and the guide collar cooperate to resist substantial release of gases through this first layer, the second layer of the door absorbs energy from the blast, and the third layer of the door restricts substantial displacement of the second layer of the door.

34. The blast-resistant container of claim 29 wherein an opening is defined in the shell by a door frame extending into

the shell, a compressible seal is located within a groove along the periphery of the door on a surface facing the exterior of the container such that cooperation between the compressible seal and the door frame will seal the opening, and the door is sealed by positioning the door such that the compressible seal is adjacent the door frame, and then pressing the door against the door frame such that the compressible seal seals the opening.

35. The blast-resistant container of claim 34 wherein the periphery of the door also has a blast-shield collar extending toward the exterior of the container, said blast-shield collar being located to the outside of the groove containing the compressible seal, such that when the door is pressed against the door frame, the blast-shield collar overlaps the outside of the door frame, providing protection to the compressible seal from blast forces.

36. The blast-resistant container of claim 29 further comprising a fluid sampling system comprising:

inlet nozzles piercing the shell of the container;

an outlet piercing the shell of the container;

fluid circulation lines connected to each of the inlet nozzles and the outlet;

a fluid circulation pump for circulating fluid in said fluid circulation lines; and

a sensor for detecting at least one of chemical and biological agents in the fluid circulation lines;

whereby upon operation of the fluid sampling system fluid is circulated through the fluid circulation lines, into the blast-resistant container through the inlet nozzles, out

through the outlet, and through the sensor for determining whether an object located within the blast-resistant container contains at least one of chemical and biological agents.

37. The blast-resistant container of claim 36 wherein the fluid sampling system also comprises decontamination fluid inlets and effluent outlets in the fluid circulation lines for circulating a decontamination fluid through the interior of the blast-resistant container.

38. A blast-resistant container comprising:

a shell; and

a door in said shell,

wherein the door comprises:

a first layer;

a compressible second layer located adjacent the first layer;

a third layer located adjacent the second layer; and

a guide collar along the periphery of the door to guide axial movement of the first layer and to shield the second layer from blast forces,

wherein upon detonation of an explosive located adjacent the first layer of the door, this first layer compresses the second layer of the door, the first layer of the door and the guide collar cooperate to resist substantial release of gases through this first layer, the second layer of the door absorbs energy from the blast, and the third layer of the door restricts substantial displacement of the second layer of the door.

39. A blast-resistant container comprising:

a shell; and

a sealable door in said shell,

wherein an opening is defined in the shell by a door frame extending into the shell, a compressible seal is located within a groove along the periphery of the door on a surface facing the exterior of the container such that cooperation between the compressible seal and the door frame will seal the opening, and the door is sealed by positioning the door such that the compressible seal is adjacent the door frame, and then pressing the door against the door frame such that the compressible seal seals the opening.

40. The blast-resistant container of claim 39 wherein the periphery of the door also has a blast-shield collar extending toward the exterior of the container, said blast-shield collar being located to the outside of the groove containing the compressible seal, such that when the door is pressed against the door frame, the blast-shield collar overlaps the outside of the door frame, providing protection to the compressible seal from blast forces.

41. The blast-resistant container of claim 39 wherein the door further comprises:

a first layer;

a compressible second layer located adjacent the first layer;

a third layer located adjacent the second layer; and

a guide collar along the periphery of the door to guide axial movement of the first layer and to shield the second layer from blast forces,

wherein upon detonation of an explosive located adjacent the first layer of the door, this first layer compresses the second layer of the door, the first layer of the door and the guide collar cooperate to resist substantial release of gases through this first layer, the second layer of the door absorbs energy from the blast, and the third layer of the door restricts substantial displacement of the second layer of the door.

42. A blast-resistant container comprising:

a shell;

a sealable door in said shell; and

a fluid sampling system,

said fluid sampling system comprising:

inlet nozzles piercing the shell of the container;

an outlet piercing the shell of the container;

fluid circulation lines connected to each of the inlet nozzles and the outlet;

a fluid circulation pump for circulating fluid in said fluid circulation lines; and

a sensor for detecting at least one of chemical and biological agents in the fluid circulation lines;

whereby upon operation of the fluid sampling system fluid is circulated through the fluid circulation lines, into

the blast-resistant container through the inlet nozzles, out through the outlet, and through the sensor for determining whether an object located within the blast-resistant container contains at least one of chemical and biological agents.

43. The blast-resistant container of claim 42 wherein the fluid sampling system also comprises decontamination fluid inlets and effluent outlets in the fluid circulation lines for circulating a decontamination fluid through the interior of the blast-resistant container.